

REMARKS

Reconsideration is respectfully requested in light of the foregoing amendments and the remarks that follow.

Claims 34-45 are pending in the application, with claims 34, 38, and 42 being the independent claims. Claims 1-3, 12-15, 18, 21-22 and 24-33, and 36-39 have been canceled. These changes are believed to introduce no new matter and their entry is respectfully requested.

Objections to the Claims

At ¶ 4, the office action objected to claim 1 for a typographical error. While claim 1 has been canceled, applicant has inspected the pending claims for this and other errors, and believes the claims overcome or render the objection moot. As such, applicant respectfully requests that the objection be withdrawn.

Rejections under 35 U.S.C. § 112 ¶ 1

At ¶ 5, the office action rejects claims 1-3, 12-18, 21, 22 and 24-33 for failing to comply with the written description requirement. In these claims, the phrase "including the first message" was introduced by amendment. Applicant respectfully submits that the intention of this amendment was to claim "based on the first message" and not to include, as literally interpreted, a copy of the first message in the second message. In any case, the affected claims have been canceled, and the pending claims employ the "based on" language with additional clarifying language. As such, applicant respectfully submits that this rejection has been overcome or rendered moot, and respectfully requests that the objection be withdrawn.

At ¶ 8, the office action rejects claims 30 and 31 for lack of enablement. In these claims, the listed operations were described with an 'and', implying that all of the operations were to be performed at once, which, as the action states, not discussed in the specification. While these claims have been canceled, applicant has used 'or' among other language to indicate that only one of the listed operations is to be performed. As such, applicant respectfully submits that this rejection has been overcome or rendered moot, and respectfully requests that the objection be withdrawn.

In addition, any claims rejected for incorporating these deficiencies by dependency have been canceled and any pending dependent claims have had the above-described amendments incorporated. As such, applicant believes a complete response to these rejections has been made.

Rejections under 35 U.S.C. § 103(a)

At ¶ 10, the office action rejects claims 1-3, 12-15, 18, 21, 22, and 24-31 as unpatentable over U.S. Patent No. 5,640,573 to Gephardt et al. (hereinafter "Gephardt") in view of U.S. Patent No. 5,819,100 to Pearce (hereinafter "Pearce") and further in view of U.S. Patent No. 5,819,100 to Edem et al. (hereinafter "Edem"). Claims 1-3, 12-15, 18, 21, 22, and 24-31 have been canceled without prejudice. Moreover, applicant respectfully submits that the pending claims are patentable over the cited references.

Specifically, the pending claims contain the limitations of sending a second message to a subsystem based on information received from the subsystem. It is respectfully submitted that neither Gephardt, Pearce, or Edem, individually or in combination, appear to disclose or suggest this limitations.

Rather, Gephardt appears to teach a power management message unit integrated within a processor to provide an encoded message to enable an external power

management unit to monitor the internal events of the processor (Gephardt, col. 2, lines 11-37). The message is issued through a power management message bus (Gephardt, col. 4, lines 64-65). The power management unit latches each message transmitted upon the assertion of a validation strobe (Gephardt, col. 6, lines 11-15). Gephardt also appears to disclose when the power management unit receives a new message, it controls clock control signals and power control signals in accordance with a power management algorithm (Gephardt, col. 6, lines 15-18). Apparently, in Gephardt, a message is transmitted one way from the power management message unit to the power management unit through a power message bus. Indeed, Gephardt does not need to address a subsystem to send a power management message because the power message bus is dedicated between the power management message unit and the power management unit (Gephardt, Fig. 1). Nowhere does Gephardt disclose or suggest sending a message addressed to a subsystem based on information received from the subsystem.

Pearce, on the other hand, appears to disclose a method of operating a power-managed computer system that monitors the life cycle of a hard disk drive and extends the life span of the hard disk drive by reducing the rate at which hard disk drive spin-up cycles are initiated (Pearce, col. 2, lines 9-15). An interrupt signal activates a system management mode (SMM) of operating and executes handler routine that spins up and down the hard disk drive by performing a SCSI start/stop instruction (Pearce, col. 7, lines 34-63). The SMM routine preserves the life span of a hard disk drive by accumulating a count of the number of times the drive has been activated (Pearce, col. 8, lines 47-49). A timer value and hard disk power down flag are set for purposes of conserving energy, conserving the life span of the hard drive, and/or preventing loss of data according to the accumulated count (Pearce, col. 8, lines 4-46). However, Pearce is completely silent about sending a message addressed to a subsystem based on information received from the subsystem.

Furthermore, Gephardt's technique appears to provide the external power management unit encoded information regarding the internal events of an integrated processor while minimizing the number of external pins on the integrated processor (Gephardt, col. 2, lines 32-36). An external power management unit reduces the power consumptions of computer system depending on the events detected (Gephardt, col. 1, lines 40-46). Gephardt states power reduction is important in maximizing the operating life battery-powered portable computer system. Pearce, however, appears to extend the life span of a hard disk drive by reducing the rate at which hard spin-up cycles are initiated (Pearce, col. 2, lines 12-15). Pearce specifically teaches not to deactivate a hard drive to preserve the life span of the hard drive (Pearce, 39-41). Clearly, Pearce teaches not to reduce the power for preserving the life span of the hard drive. Therefore, Pearce and Gephardt teach away from each other, or at the least fail to provide motivation to fill the gap to Edem as suggested by the office action.

Edem appears to teach sending an acknowledgement from one transceiver to another over a network, which is in a non-analogous technical area. One of ordinary skill in the art, engaged in the problem of managing subsystems would not find it obvious to incorporate peer-to-peer network techniques, as rejected in the office action. Furthermore, Edem does not provide the motivation to combine these references, as the cited rationale being an increased reliability of the system. This rationale is not found in any of the cited references.

As such, not only do Gephardt, Pearce, and Edem not disclose, individually or even in combination, the above noted limitations, but the references, considered as a whole, do not suggest the desirability and thus the obviousness of making the combination.

In order to render a claim obvious, each and every limitation of the claim must be taught by the cited references. Therefore, in view of the foregoing remarks, it is respectfully submitted that pending claims are patentable over the cited references.

At ¶ 17, claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Gephardt in view of Pearce and further in view of Edem and further in view of U.S. Patent No. 6,105,142 to Goff et al. (hereinafter "Goff"). Applicant hereby reserves the right to swear behind Goff. Furthermore, applicant respectfully submits claim 16 is canceled. Moreover, applicant respectfully submits that the pending claims (see claim 43) are patentable over the cited references.

Specifically, for the reasons set forth above, the pending claims, and at least claim 43, are patentable over the cited references. Furthermore, Goff appears to teach a method for managing power consumption in a computer system that is compliant with the proposed Advanced Configuration and Power Interface (ACPI) specification (Goff, col. 3, lines 34-39). Goff also discloses a power management processor monitors all commands and data directed to registers from ACPI driver, ACPI BIOS, or ACPI tables. The power management processor determines the appropriate power states for platform hardware based on the commands and data. The power management processor directly interfaces with various controls, controllers, sensors and status indicators (Goff, col. 8, line 64 – col. 9, line 10), including a power button status (Goff, col. 9, lines 47- 50). However, Goff is completely silent about sending a message addressed to a subsystem based on information received from the subsystem.

The office action asserts that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Gephardt-Pearce-Edem and Goff because they both teach system for controlling power in a computer system". Applicant respectfully disagrees. Instead, for the similar reasons as discussed above, Pearce, Gephardt, and Edem teach away from each other. Furthermore, Goff teaches a power management processor sandwiched between the platform hardware and the ACPI registers. Gephardt, however, teaches power management for an integrated processor. Thus, Goff and the others also teach away from each other.

As such, not only do Gephardt, Pearce, Edem and Goff not disclose, individually or even in combination, the above noted limitations; and the references, considered as a whole, do not suggest the motivation and desirability and thus the obviousness of making the combination.

In order to render a claim obvious, each and every limitation of the claim must be taught by the cited references, and the combinations of the references must be motivated by the references. Therefore, in view of the foregoing remarks, it is respectfully submitted that the pending claims are patentable over the cited references.

At ¶ 19, the office action rejects claims 17, 32, and 33 as being unpatentable over Gephardt in view of Pearce and further in view of U.S. Patent No. 5,978,922 to Arai et al. (hereinafter "Arai"). However, the office action then refers to Edem, so applicant will consider Edem to be part of this combination. Moreover, claims 17, 32, and 33 have been canceled. Furthermore, applicant respectfully submits that the pending claims are patentable over the cited references.

Specifically, for the reasons set forth above, the pending claims are patentable over the cited references. Arai appears to teach a computer system comprising a ROM and a power-supply controller. The ROM stores the BIOS software. The power-supply controller monitors the amount of power remaining in the power supply (Arai, col. 5, lines 15-35). The BIOS calculates the amount of power remaining in the power supply from the rate at which the system is consuming power as detected by the power supply controller (Arai, col. 11, lines 2-6). Based on the amount of power calculated, the BIOS executes either a hibernation-type resume operation or a normal-type resume operation (Arai, col. 11, lines 7-21). However, Arai is completely silent about sending a message addressed to a subsystem based on information received from the subsystem.

Furthermore, Arai relates to a computer having resume function of hibernation type (Arai, col. 1, lines 7-8). Arai states specifically a hibernation-type resume operation consumes far more power than normal-type resume operation (Arai, col. 2, lines 35-36). In contrast, Gephardt is relevant to the art where power reduction has been particularly important in maximizing the operating life of battery-powered portable computer system (Gephardt, col. 1, lines 15-17). Thus, Arai and Gephardt teach away from each other.

As such, not only do Gephardt, Pearce, Edem, and Arai not disclose, individually or even in combination, the above noted limitations, but the references, considered as a whole, do not suggest the motivation and desirability and thus the obviousness of making the combination.

In order to render a claim obvious, each and every limitation of the claim must be taught by the cited references. Therefore, in view of the foregoing remarks, it is respectfully submitted that the pending claims are patentable over the cited references.

CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all currently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding office action and, as such, the present application is in condition for allowance. If the examiner believes, for any reason, that personal communication will expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this amendment and reply is respectfully requested.

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Respectfully submitted,

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